

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

1. (Previously Presented) A method, comprising:
receiving at a first network element in a communications network a first message
from a user equipment;

transmitting the first message from the first network element to a serving network
element;

detecting at the first network element that the serving network element is out of
service;

determining at the first network element a type of the first message, wherein
determining the type of the first message comprises evaluating content of a
predefined information element in the first message;

in dependence on the determined type of the first message, sending from the first
network element to the user equipment an error message including an
indication that the serving network element is out of service; and

subsequent to sending the error message to the user equipment, receiving a second
message from the user equipment of a second type different from the first
message type.
2. (Cancelled)

3. (Previously Presented) A method according to claim 1, wherein
the second message is configured to initiate a registration from the user equipment to
the first network element.
4. (Previously Presented) A method according to claim 1, wherein
a bearer configured to signal is established between the user equipment and the
communications network prior to the receiving of the first message.
5. (Previously Presented) A method according to claim 4, further comprising forwarding the
first message to a further serving network element.
6. (Previously Presented) A method according to claim 5, wherein the further serving network
element registers the user equipment.
7. (Previously Presented) A method according to claim 4, wherein the bearer comprises a
signalling or general purpose packet data protocol context bearer.
8. (Previously Presented) A method according to claim 1 wherein the communications
network is an internet protocol multimedia subsystem network.
9. (Previously Presented) A method according to claim 1 wherein the first network element
comprises an interrogating call session control function.

10. (Previously Presented) A method according to the claim 1, wherein the first network element comprises a proxy call session control function.

11. (Previously Presented) A method according to claim 1 wherein the serving network element comprises a serving call session control function.

12. Cancelled.

13. (Previously Presented) A method according to claim 1, wherein the detecting at the first network element that the serving network element is out of service comprises:

at least one of detecting that a predetermined time period has passed since the forwarding of the message from the first network element to the serving network element and before a response has been received from the serving network element, and determining that the first message has been transmitted a predetermined number of times.

14. (Previously Presented) A method according to claim 1, wherein the type of the first message comprises a re-registration request.

15. (Previously Presented) A method according to claim 1, wherein the type of the second message comprises an initial registration request.

16. (Previously Presented) A method according to claim 1, wherein the information element indicates that the first message is sent integrity protected.

17. (Previously Presented) A method according to claim 1, wherein the information element indicates that a user has been successfully authenticated.

18. (Previously Presented) A method according to claim 1, wherein the information element in the first message is an integrity protected flag in an authorization header of the first message.

19. (Previously Presented) An apparatus, comprising:

- a controller configured to
- receive a first message from a user equipment,
- forward the first message to a serving network element,
- detect that the serving network element is out of service,
- determine a type of the first message by evaluating content of a predefined information element in the first message
- in dependence on the determined type of the first message received from the user equipment send an error message to the user equipment, and
- subsequent to the error message being sent to the user equipment, receive a second message from the user equipment of a second type different from the first message type.

20. (Cancelled)

21. (Currently Amended) An apparatus, comprising:

a controller configured to

receive an error message from a first network element in a communications network
in response to a first message of a first type, the error message indicating that a
serving network element for the apparatus is out of service, and

in response to the error message to send a further message of a second type different
from the first type of the first message to the first network element.

22. (Previously Presented) An apparatus according to claim 21, wherein the controller is
further configured to

establish a bearer configured to signal between the apparatus and a communications
network comprising said first network element and said serving network
element, and

respond to the error message by dropping the bearer between the apparatus and the
communications network.

23. (Previously Presented) An apparatus according to claim 22 wherein the bearer comprises
a signalling or general purpose packet data protocol context bearer.

24. (Previously Presented) An apparatus according to claim 21, wherein the type of the
further message sent to the first network element comprises an initial registration request.

25. (Currently Amended) An apparatus, comprising:

a controller configured to

determine that a first network element in a communications network is out of service by sending a request to the first network element from the apparatus and determining that no response to the request has been received from the first network element at the apparatus,

when the first network element is determined to be out of service, drop a bearer configured to signal between the apparatus and a communications network comprising the first network element,

discover or select at the apparatus a second network element, and

send from the apparatus to the second network element a message comprising an initial request for registration at the communications network.

26. (Currently Amended) A method, comprising:

sending from user equipment a first message to a first network element;

determining whether a response to the first message has been received;

in response to a determination that no response to the first message has been received,
detecting at the user equipment that the first network element is out of service;

dropping a signalling bearer from the user equipment to a communications network comprising the user equipment and the first network element;

selecting or discovering at the user equipment a second network element in the communications network; and

sending from the user equipment to the second network element a message comprising an initial registration request.

27-33 (Cancelled)

34. (Currently Amended) A system, comprising:

a network element;

a serving network element in communication with the network element; and

user equipment in communication with said network element,

wherein said network element is configured to

receive a first message from the user equipment,

forward the first message to the serving network element,

detect that the serving network element is out of service,

determine a type of the first message by evaluating content of a predefined
information element in the first message,

in dependence on the determined type of the first message received from the user
equipment, send an error message to the user equipment including an
indication that the serving network element is out of service, and

subsequent to sending the error message to the user equipment, receive a second
message from the user equipment of a second type different from the first
message type from the user equipment.

35-36 (Cancelled)

37. (Previously Presented) An apparatus according to claim 25 wherein the bearer comprises a signalling or general purpose packet data protocol context bearer.

38. (Previously Presented) A method according to claim 26 wherein the bearer comprises a signalling or general purpose packet data protocol context bearer.

39. (Currently Amended) A method comprising:

receiving an error message from a first network element in a communications network
in response to a first message of a first type, the error message indication that a
serving network element for a user equipment is out of service; and

in response to the error message, sending a further message of a second type different
from the first type of the first message to the first network element.

40. (Previously Presented) A method according to claim 39, wherein the further message is configured to initiate a registration from the user equipment to the first network element.

41. (Previously Presented) An apparatus, comprising:

first message receiving means for receiving a first message from a user equipment;

forwarding means for forwarding the first message to a serving network element;

detecting means for detecting that the serving network element is out of service;

determining means for determining a type of the first message by evaluating content
of a predefined information element in the first message;

sending means for sending an error message to the user equipment in dependence on
the determined type of the first message received from the user equipment; and

subsequent to sending the error message to the user equipment, second message receiving means for receiving a further message of a second type different from the first message type from the user equipment.

42. (Currently Amended) An apparatus, comprising:

receiving means for receiving an error message from a first network element in a communications network in response to a first message of a first type, the error message indicating that a serving network element for the apparatus is out of service; and

sending means for sending a further message of a second type different from the first type of the first message to the first network element in response to the error message.

43. (Currently Amended) An apparatus, comprising:

determining means for determining that a first network element in a communications network is out of service by sending a request from the apparatus to the first network element and determining that no response to the request has been received from the first network element at the apparatus;

when the first network element is determined to be out of service, dropping means for dropping a bearer for signaling between the apparatus and a communications network comprising the first network element;

discovering means for discovering or selecting at the apparatus a second network element; and

sending means for sending from the apparatus to the second network element a message comprising an initial request for registration at the communications network.

44. (Currently Amended) A non-transitory computer readable medium configured to store instructions of a computer program that when executed controls a controller to perform:

receiving at a first network element in a communications network a first message from a user equipment;

transmitting the first message from the first network element to a serving network element;

detecting at the first network element that the serving network element is out of service;

determining at the first network element a type of the first message by evaluating content of a predefined information element in the first message;

in dependence on the determined type of the first message, sending from the first network element to the user equipment an error message including an indication that the serving network element is out of service; and

subsequent to sending the error message to the user equipment, receiving a second message from the user equipment of a second type different from the first message type.

45. (Currently Amended) A non-transitory computer readable medium configured to store instructions of a computer program that when executed controls a controller to perform:

sending from user equipment a first message to a first network element;

determining whether a response to the first message has been received;
in response to a determination that no response to the first message has been received,
detecting at the user equipment that the first network element is out of service;
dropping a signalling bearer from the user equipment to a communications network
comprising the user equipment and the first network element;
selecting or discovering at the user equipment a second network element in the
communications network; and
sending from the user equipment to the second network element a message
comprising an initial registration request.

46. (Previously Presented) An apparatus according to claim 19, wherein the controller is further configured to detect that a predetermined time period has passed since the forwarding of the message from the apparatus to the serving network element and before a response has been received from the serving network element and/or determining that the first message has been transmitted a predetermined number of times.

47. (Currently Amended) A non-transitory computer readable medium configured to store instructions of a computer program that when executed controls a controller to perform:
receiving an error message from a first network element in a communications network
in response to a first message of a first type, the error message indication that a serving network element for a user equipment is out of service; and
in response to the error message, sending a further message of a second type different from the first type of the first message to the first network element.